that the group Chordata is inadmissible because tunicates, Amphioxus, and vertebrates are very unlike in the adult condition; and that, just as one cell gives rise to others by division, so one organ produces others by division.

Every teacher and advanced student of biology should become acquainted with the views of an author who has studied so many and widely separated biological phenomena.

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A Laboratory Course in Physics. By R. A. MILLIKAN and H. G. GALE. Boston: Ginn & Co., 1906. Pp. x+134.

This laboratory manual is intended to accompany Millikan & Gale's classroom text, *A First Course in Physics,* although it is stated that the manual may be used independently if desired. Directions are given for performing fifty-one experiments. Appendices give a suggested time-schedule for a one-year course in physics, and a list of the apparatus used together with the cost of the same. The experiments and apparatus are the outcome of three years' trial and improvement in high-school and university courses.

The book is of convenient size, clearly printed, and well supplied with illustrative diagrams. Many of the experiments are original and show a decided departure from those described in older texts. There is a well-defined attempt to simplify the methods and apparatus so that the pupil may grasp the physical principle without getting lost in manipulating details. Suggestive questions are inserted to help attain this object.

A possible objection to the proposed course lies in the introduction of the vernier and the micrometer caliper. The use of these instruments seems contrary to the authors' attempt to avoid the "creeping-over of the methods and the instruments of research and specialization from the university into the high school, where they have absolutely no place." The same objection might be urged against the use of per cent. errors and discussion of accuracy of measurements.

Altogether the book is to be commended, not only for its improvements over older manuals, but also as part of a *completed* and *tried* course. The fact that a complete set of apparatus for the course may be bought for a reasonable amount is an additional commendation.

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BOOKS RECEIVED

(The notice here given does not preclude the publishing of a comprehensive review.)

EDUCATION

Composition in the Elementary Schools. By JOSEPH S. TAYLOR. New York: A. S. Barnes & Co., 1906. Pp. 207.

Hints and Helps from Many School-rooms: Successful Plans and Devices Contributed by 150 Teachers Who Have Used Them in Their Schools.